Designing Waller Creek

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Introduction

Around the world, people in towns and cities are looking at previously ignored, neglected, and—all too often—abused sites and seeing new possibilities to improve the structure, function, and experience of the urban landscape. In part, this situation is a result of the fact that as places become more densely developed, unused lands become commensurately scarce. But it also reflects an increased understanding of the ways ecosystems that are sustainable, resilient, and regenerative support a high quality of life.

Waller Creek in the City of Austin has been one such underappreciated area that is now receiving welcome attention. This narrow riparian corridor currently suffers from invasive plants, failed stream banks, and high concentrations of bacteria. It can also be a danger to human life and property. Given the amount of sidewalks, roads, and rooftops (i.e., surfaces that do not absorb water) in its drainage basin, the creek's flow can swell to over fifty times its base rate during extreme storm events.

In the downtown area of the city, these undesirable conditions are changing by plan. The construction of a new flood control tunnel, which is expected to be completed next year, will allow twenty-eight acres (eleven percent) of the central business district to be safely developed. To help ensure the success of this once-in-a-century chance to reshape Austin, a group of citizens partnered with city officials to create the Waller Creek Conservancy. This group's mission is to bring together local stakeholders and lead long-term stewardship efforts. Notably, the Conservancy's first act was to sponsor an international design competition. Teams of landscape architects and architects were asked to reimagine the role of this small creek in one of the fastest growing cities in the nation. It was expected that proposals would not only reflect the environmental and cultural contexts of Austin, but also advance design thinking for other cities.[1] Entries came from North America,

Asia, Europe, and the Middle East. The jury's selected scheme by Michael Van Valkenburgh Associates and Thomas Pfifer and Partners, "A Chain of Parks," can be characterized equally as a product of technological innovation, an act of ecological restoration, and a vision of civic space.

Waller Creek on The University of Texas campus has some of the same kinds of problems now seen downstream. Poison ivy makes getting near the water hazardous, invasive trees shade-out native groundcover, and some of the bank segments are precariously unstable. The campus also faces its own growth pressures. According to the recently completed master plan by Sasaki Associates, the Waller Creek–San Jacinto Boulevard corridor will become the central spine of a much (much) expanded forty acres as new buildings are constructed over the coming decades. Given its present conditions and expected future, the campus section of Waller Creek deserves and demands the same kind of creative attention that was given downtown.

Just how the Waller Creek corridor on campus might be changed was the subject of a graduate design studio offered last fall in the School of Architecture's Landscape Architecture program. Previous studios considered the downtown portion of the creek and the results contributed to discussions that shaped the Conservancy's design competition. (And each of the four finalist teams employed a student who had taken this studio.) In reimagining the campus, students were asked to achieve three broad objectives: engage the creek, enhance the environment, and expand access. This paper highlights some of the students' best thoughts.

Design and Designing

Dictionaries offer many definitions of the word "design" and every designer, invariably, adds nuance to these definitions. In my words:

> *A design is a response; a response that is an expression; an expression that is an agent.*

First, a design is a response. It is a response to circumstances that call for change. In responding, designers act on what can be called the utopian impulse to make what is bad good, and what is good better. Second, a design is an expression. While the notion of an expression conveys a sense of creativity commonly associated with design, I do not mean simple decoration that renders the response, somehow, pleasing or novel. Instead, I mean a statement about the essential aspects or qualities of the medium through which the change is made. While designing a landscape and designing, say, a book might share some common working practices, the kinds of statements that can be made by the two efforts are different. Third, a design is an agent. A design not only transforms the objective world, it influences our subjective perceptions of it. As has been noted by philosophers, anthropologists, and psychologists, the things we make shape the ways we feel, think, and behave.[2] By being a response, an expression, and an agent, a design—a good design—brings about both instrumental effects and inspirational affects.

As licensed design professionals, landscape architects are asked to change the environment to provide and maintain health, safety, and general welfare. Typical commissions include laying out streets and roads, housing and commercial developments, gardens and parks, and, yes, college campuses. Each project has its own set of requirements and each client has his or her own set of expectations. So, what is the essential aspect of landscape as a medium for design that binds these distinguishable endeavors and offers a means for expression? It is the movement of time.

The art historian David R. Coffin would introduce his class on gardens by stating that the topic to be investigated was, "man's [sic] relationship to the passage of time as expressed in what is, perhaps, our most ephemeral form of art." Over a semester, he would explain how the Italians of the sixteenth century ignored the passage of time, easily combining old and new with a life comes and life goes attitude (one can think of the inclusion of antiquities in the constructions at Villa d'Este or Villa Giulia); the French of the seventeenth century tried to arrest the passage of time and make one perfect moment last for eternity (the well-trimmed plantings and groomed paths at Vaux-le-Vicomte or Versailles); and the English of the eighteenth century reveled in the passage of time to the point of planting dead trees and building fake ruins (the follies at Stowe or the Leasowes).

With an eye on the vernacular landscape of the United States, the critic J.B. Jackson wrote in his still widely read essay, "The Word Itself," that landscape is, "a portion of the earth's surface that can be comprehended at a glance," but that the making of landscape should be understood as deliberately speeding up or slowing down natural processes.[3] To extend Coffin's generalizations beyond the art of the garden and across the generations, one could say that the Americans of the nineteenth century punctuated the passage of time by stretching society's reach—and grasp—in the present moment (the

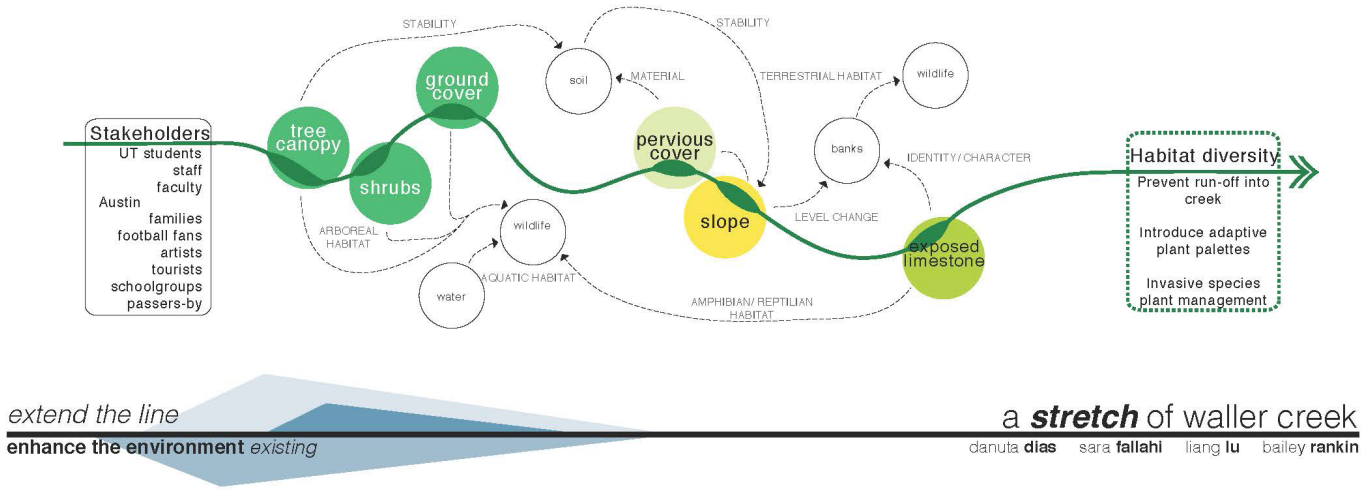


Figure 1: Denuta Dias, Sara Falhahi, Liang (Sunny) Lu, and Bailey Rankin, A Stretch of Waller Creek. Diagram of the system that supports the design objective of enhancing the environment (2012).

lengthening of the day by gas and then electric illumination, the compression of travel time by railroads, and the instantaneous communication over great distances made possible by the telegraph, telephone, and radio). Then, in the twentieth century, Americans along with those in many other industrialized nations pocketed the passage of time through separated and insulated areas of control (local regulations to manage storm water on-site and of national plans to re-distribute populations and industries over wide areas in order to survive nuclear detonations).

Across the centuries, making landscape has been about shaping space to modify time.

It is difficult to generalize an attitude to the passage of time in the middle of the first quarter of the twenty-first century, but the increasing use of terms such as novel ecologies and hybrid landscapes suggests a new kind of engagement with the temporal cycles of biophysical systems.

Marking Time and Space—A Stretch of Waller Creek

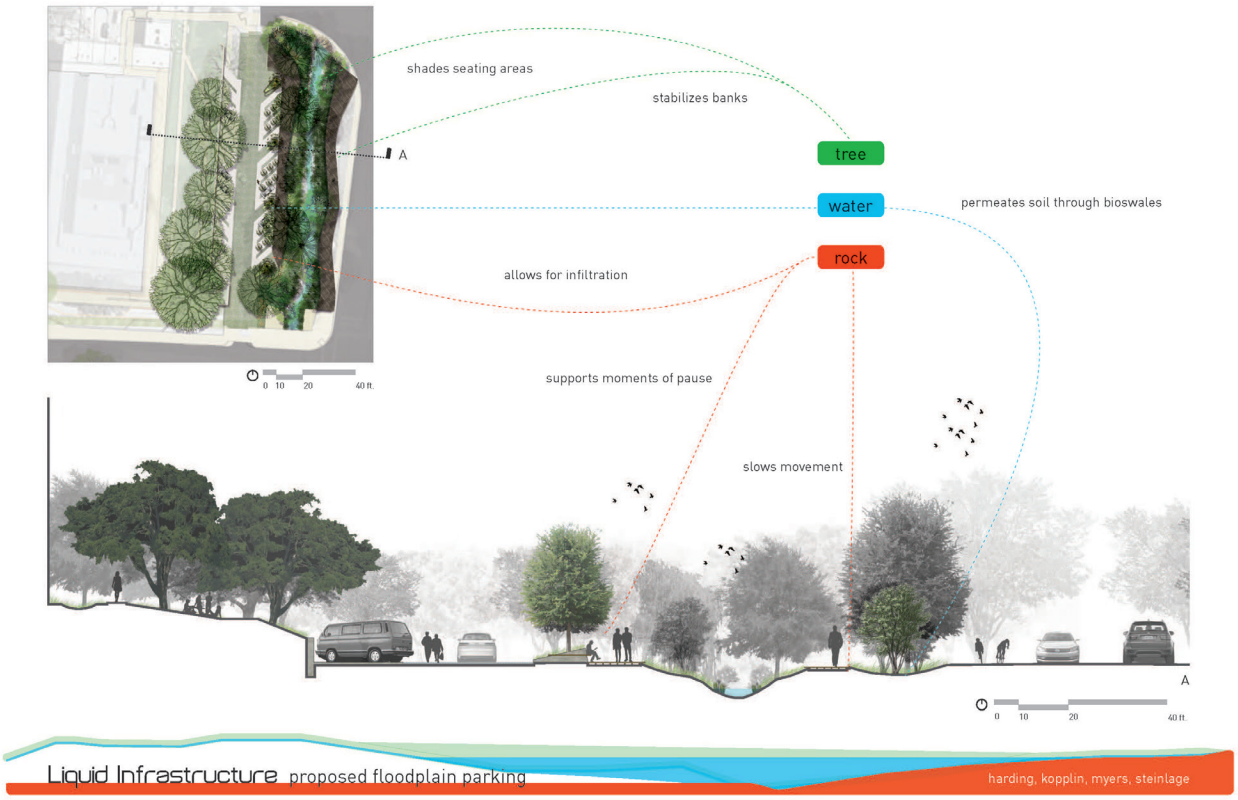
Although time and space are often treated as distinct aspects of reality in various kinds of scientific or technical analyses, the English language has many commonly used words and expressions that can be applied to both. It is a fusion with a deeper history than the concept of space-time from modern physics. Indeed, according to the Oxford English Dictionary, the first meaning of space, which dates to the early fourteenth century, is "denoting time or duration." In everyday conversations today, we talk of points in time and points in space, timelines and center lines, and making marks in history and on surfaces.

Of course, we are not simply passive observers of our world and some words are used to describe what we do to change our relationships to time, to space, and to the connections between them. One example is stretch. It is a word that also designates a segment of a creek or a river and its connotations

related to making the most of limited resources resonates with thoughts about sustainability. The team of Denuta Dias, Sara Falhahi, Liang (Sunny) Lu, and Bailey Rankin conceptualized their design as a stretch of Waller Creek, bringing together ideas of time and space, social activities and geomorphology. Working through the metaphor to address the required objectives, engage the creek became "thicken the segments" to introduce more activities along the corridor, enhance the environment became "extend the line" of restored riparian conditions that is being started downstream by the Waller Creek Conservancy, and "expand access" became "connect the dots" where activities already take place.

Figure 1 above shows the schematic system diagram of the group's approach to enhance the environment. The shaded circles represent aspects of the environment that are to be changed directly though design decisions—the specification of locations, dimensions, and materials of elements in the landscape. The un-shaded circles represent aspects environment that will be affected through these changes. Another component of this group's plan that helps to register Waller Creek as the center line of campus is a proposal to build a new welcome center and gallery of campus history on the southwest corner of the Martin Luther King, Jr. Boulevard and Trinity Street intersection. The site is currently a parking lot owned by the state as part of the capitol complex. The facility would help to strengthen the physical connection with the grounds of the new Dell Medical School and Seaton Healthcare Family Hospital, which are being built on the current tennis courts and the Centennial Park. It also establishes Waller Creek as an axis for re-inscribing impressions of the University. Students who are considering where to attend college will start their campus tour along the creek

Figure 2. Kimberly Harding, Stephanie Kopplin, Christopher Meyers, and Michael Steinlage, Liquid Infrastructure. Plan and sections of the redesigned parking lot near the corner of San Jacinto Boulevard and Dean Keaton Drive (2012).



and have the chance to walk along it to the Etter-Harbin Alumni Center, where generations of Longhorns repeatedly return.

Concentrating and Dissipating Time—*Liquid Infrastructure*

Infrastructure can be thought of as assemblages that enable communities to provide for health, safety, and general welfare by concentrating or dissipating flows—flows of energy, water, nutrients, people, and information—across space and over time. Infrastructure contributes both to the social relationships among people and to the cultural relationships of people with their biophysical environment.[4] An example of social infrastructure is a road network that allows people to gather in a central business district for the work day and then to disperse to residential areas for family activities. An example of a cultural infrastructure is a storm water runoff system that distributes and stores water away from people and buildings.

Over the last ten years or so, two important perspectives about infrastructure have emerged. The first is that communities should no longer build single purpose systems. That is, a road network should not serve only as a means for vehicular transportation; it should also contribute to achieving other goals—such as, say, storm water management. Some of reasons supporting this proposition are economic (infrastructure is expensive to construct) and some are spatial (municipalities have increasingly limited space for public works). More significantly, it has been recognized that any given single purpose system often exacerbates demands on other systems. Using the examples already mentioned, paved roads intensify peak demands on storm water runoff channels and retention ponds. The second perspective is that infrastructure does not have to be cast in the grays concrete and asphalt, it can be grown in the greens of vegetation, structured in the browns of soil and rock, and shaped in the blues of water. In this still developing context, elected officials and staff members of government agencies have been increasingly seeking new ways to manage the flows that support towns, cities, and regions. Landscape architects and urban designers are responding by offering innovative approaches for systems integration.[5]

The team of Kimberly Harding, Stephanie Kopplin, Christopher Meyers, and Michael Steinlage considered the campus landscape as infrastructure by focusing on the ways trees, rocks, and waters can be used to manage flows across the campus. Through this framing expanding access is achieved through open infrastructure, engaging the creek through comfort infrastructure, and enhancing the environment through ecosystem service infrastructure. Central to their investigation was recognition that each of these three basic elements of landscape offers attributes that can contribute to different infrastructure systems. For example, a group of trees contributes to: soil stabilization, improved air quality; storm water management; microclimatic temperature regulation; and nesting, breeding, and foraging habitat for select species. This multi- or poly-functionality allows infrastructure elements and networks to be combined. In language borrowed from contemporary cultural theory, the seemingly solid and separate systems become liquid and blended.[6] Figure 2 shows the redesign for the small parking lot near the corner of San Jacinto Boulevard and Dean Keaton Street. Still part of the campus' road system, the site would also be used to capture, store, and slowly release water to the creek through a series of engineered permeable surfaces and bio-swales. Storm water runoff and condensation from the adjacent Engineering Teaching Center would also contribute to this hydrologic system. The parking area is also reconfigured to allow greater use for tailgate parties on football weekends and other days of university celebration.

Time and Timing—*Scoring Waller Creek*

Landscapes do not only do things for us. As noted in the section (above) on design and designing, they do things to us. And while it would be wrong to suggest that who we are or who we might become is environmentally determined, it can be said that much of what we do each and every day is structured by our surroundings. In this light, successful landscapes are those that provide opportunities for beneficial and desired activities.

Lawrence Halprin was the landscape architect who may have best explored the kinds of ways environments can influence and, even, inspire people. Collaborating with his wife, Anna, who was a professional choreographer, he saw designed landscapes as scores for activity.[7] Like a printed score that provides information to a musician about what notes to play or to a dancer with what moves to make, the objects placed within the built environment offer us with clues about what to do. As in the (traditionally defined) performing arts, not all landscape scores are equally prescriptive. In some instances, such as participating in an official ceremony or navigating a street intersection, we play note-for-note and act in established ways. In other instances, such as visiting a neighborhood park or window shopping, we have opportunities to explore, to play, and to improvise.

Figure 3. Yirui (Nicholas) Li, Yishuen Lo, Katie Summers, and Ningneng Xu, Scoring Waller Creek. Rendering of the redesign of the bridge at E. 23rd Street, the intersection of Waller Creek and a transformed East Mall (2012).

Notably, any score only becomes meaningful through its performance and a composition that is not performed is a failed project.

The team of Yirui (Nicholas) Li, Yishuen Lo, Katie Summers, and Ningneng Xu used Halprin's approach to create a set of overlapping scores to meet the three stated objectives. Expanding access was scored for moving on time (getting from class to class), engaging the creek was scored for moving in time (becoming attuned to the natural cycles of the riparian area), and enhancing the environment was scored by moving over time (improving the biophysical systems so that they can become regenerative). Each of these three scores take for in Figure 3, which shows a rendering of the intersection of Waller Creek and East Mall. In the background, beside the new Liberal Arts Building, the fountain is replaced by a series of steps that can be used as seating to view a water feature that can be covered for staged events. A series of rectangular paving stones and blocks provide opportunities for groups of different sizes to gather.

Agency

While working toward address a common set of objectives, each of these three teams emphasized a different aspect of landscape design. Each offers a lesson for achieving sustainability.

The team that developed A Stretch of Waller Creek responded through the investigation and manipulation of geometry—what has been considered the core activity of environmental design. They offer the lesson that while time and space may be separable for some kinds of analysis, they must be considered in combination when composing the landscape.

The team that developed Liquid Infrastructure responded through a consideration of how a landscape performs. The lesson they offer is that we can benefit by coordinating the inherent interrelatedness of biophysical and social systems.

The team that developed Scoring Waller Creek responded through an exploration of the relationships between patterns of things and flows of activity to bring about a landscape for experience. The lesson they offer is that a landscape that engages us—individually and collectively—will not only be used, it will be enjoyed, remembered, and valued.

References

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